FUTURE GRAPHICS

IBM4019

TECHNICAL INSTRUCTIONS

4019 TECH

CORPORATE
LOS ANGELES
T 800 394.9900
818 316.0656
F 800 394.9910
818 313.9568

ATLANTA
T 877 676.4223
770 516.9488
F 877 337.7976
770 516.7794

DALLAS
T 877 499.4989
972 840.4989
F 877 774.1750
972 840.1750

MIAMI
T 800 595.4297
305 594.3396
F 800 522.8640
305 594.3309

NEW YORK
T 800 431.7884
631 345.0121
F 800 431.8812
631 345.0690

TORONTO
T 877 848.0818
905 712.9501
F 877 772.6773
905 712.9502

SYDNEY
T 02 9648.2630
F 02 9648.2635

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IBM 4019
IBM 4028
IBM 4029
BDT Ergoprint 510, 610II
Unisys AP 9025, 9210

HIgh Yield
Part Number: 1380200
Gram Load: 300 grams
Yield @ 5%: 7,000
Pages per min.:5/10 ppm
Resolution: 300dpi

HIgh Yield Plus
Part Number: 1380520
Gram Load: 450 grams
Yield @ 5%: 9500
Pages per min.:5/10 ppm
Resolution: 300dpi

#1 Phillips Head Screwdriver
Small Flat Blade Screwdriver
Needle Nose Pliers
Anhydrous Isopropyl Alcohol
Damp Cloth
Soft Lint-Free Cloth
Cotton Swabs
Drill
3/32" Drill Bit
Razor Knife
Nipper PLiers
Rubber Cement
Teflon Shims for Electrostatic Roller
Waste Hopper Strip
Plastic Toner Hopper Cover
Tape(pvc)
Toner Hopper Replacement Mylars (A&B)

The 4019 has a standard cartridge holding 300 grams of toner and yielding 7,000 pages, and a plus cartridge that holds 450 grams of toner and yields 9500 pages at 5% coverage.

The 4019 uses a corona wire to charge the drum while the 4039 and 4049 use the newer PCR technology.

There are two different side plates on the 4019 cartridge and two different drum gear types. The older side plate (bottom left) is metal, compared with the newer plastic part (bottom right). In the older unit, the metal spindle fits inside the drum gear, while the newer drum gear has a plastic spindle that fits inside the plastic side plate.

(See Photo 1a)

Photo 1a

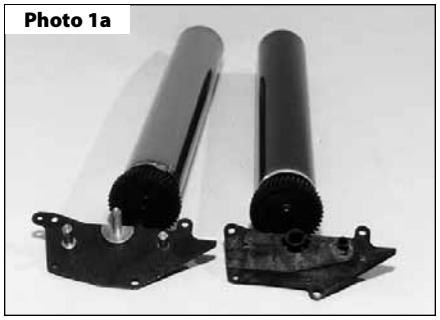
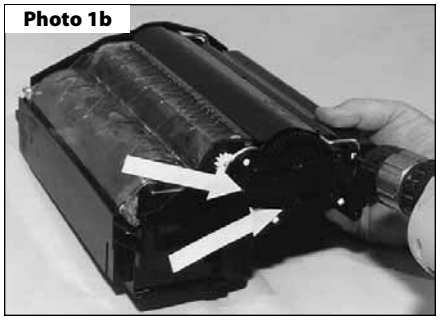


Photo 1b



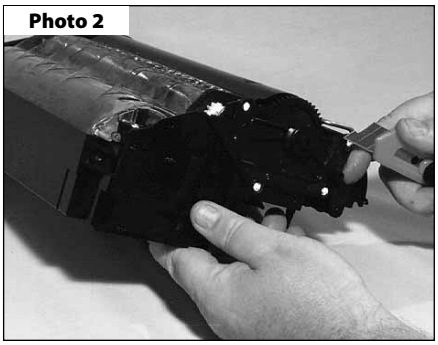
Step 1

Place the cartridge top down on the table with the drum alignment side plate facing you. For the plastic side plates, drill three 3/32" holes. These holes are for screws used in final assembly. For the metal side plate, drill out the middle of each plastic rivet head.

(See Photo 1b)

Notes:

Photo 2



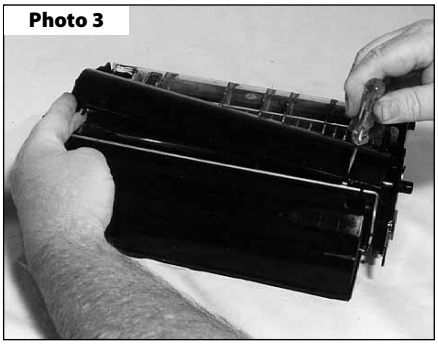
Step 2

Cut off the four heads of the black plastic rivets (shown in white in Photo #2) with a razor knife or flush cut nipper pliers.

(See Photo 2)

Notes:

Photo 3



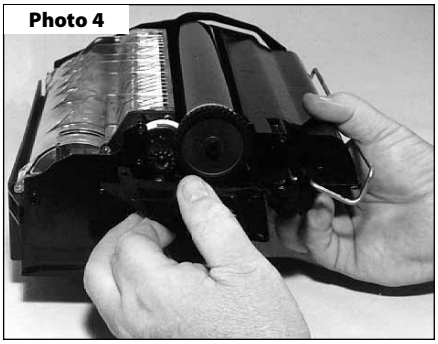
Step 3

Remove the OPC drum cover from the shutter rod using a small flat blade screwdriver.

(See Photo 3)

Notes:

Photo 4



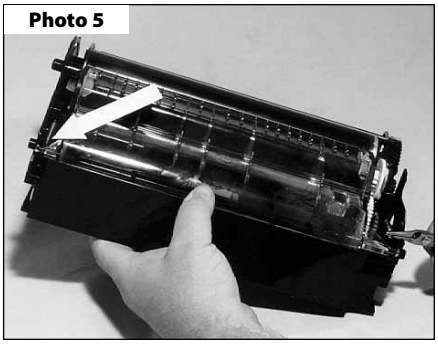
Step 4

Move the drum shutter rod aside and remove the drum alignment plate by pulling it straight out.

(See Photo 4)

Notes:

Photo 5

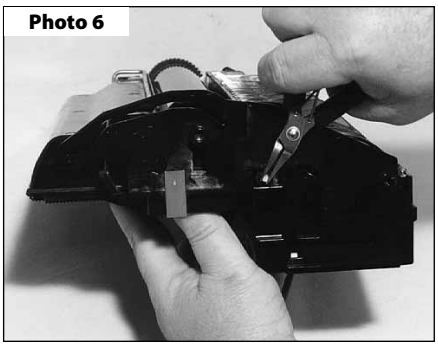


Step 5

Using Needle Nose pliers, disconnect the toner hopper tension springs.

(See Photo 5)

Photo 6



Step 6

Turn the cartridge 180° and remove the toner hopper guide pin from the rectangular hole.

(See Photo 6)

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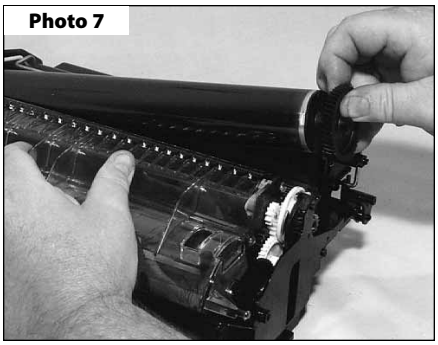
FUTURE GRAPHICS

Photo 7



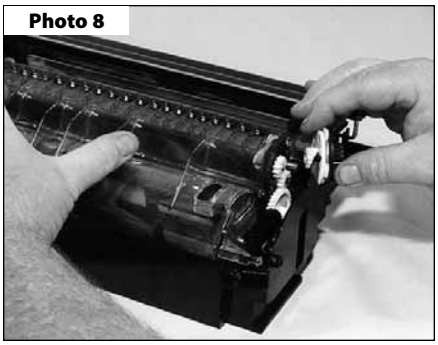
Step 7

Rotate the cartridge 180° again, pull back the toner hopper with one hand, and remove the OPC drum with the other. Wrap the drum in protective cloth or paper and put it aside until later. You can usually use the OEM drum one more cycle after the original OEM cycle.

(See Photo 7)

Notes:

Photo 8



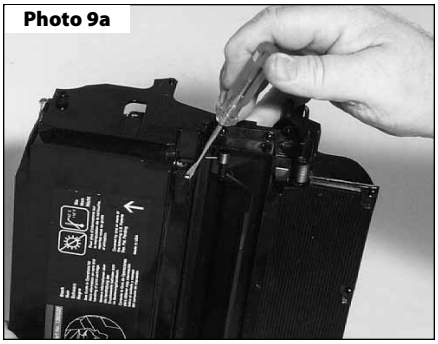
Step 8

Remove the drum clutch gear assembly and set it aside.

(See Photo 8)

Notes:

Photo 9a



Step 9

Lift the alignment plate side of the cartridge enough to expose the lock tab on the top of the waste hopper and gently pry the tab with a small flat blade screwdriver, to release the toner hopper.

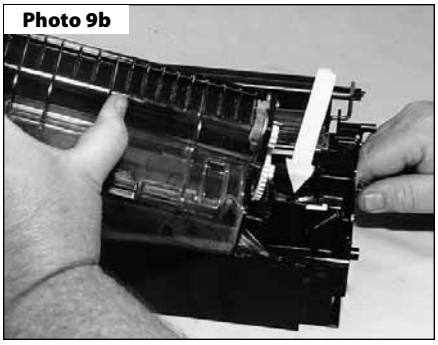
(See Photo 9a)

Now lift the toner hopper and separate it from the waste hopper.

(See Photo 9b)

NOTE: An arrow points to the tab being pulled down by the screwdriver.

Photo 9b



Notes:

Photo 10

Step 10

Now, set the toner hopper aside and remove the waste hopper mylar strip (recovery blade) opposite the wiper blade. Dump out the waste toner and clean the waste hopper with either compressed air or vacuum.

(See Photo 10)

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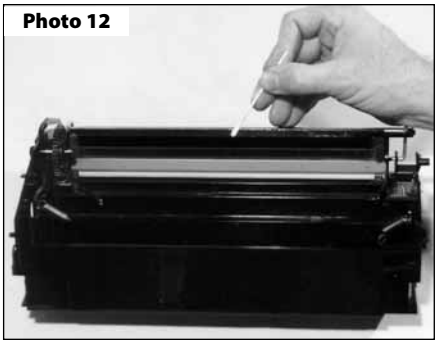
Step11

Wipe down the entire waste hopper with a damp cloth.

Notes:

Photo 12



Step12

Clean the place where the waste hopper mylar strip was with a cotton swab and alcohol. This area must be free of all adhesive and toner. Clean the wiper blade with a soft cloth. Clean any grease residue from around the axle with a cotton swab and alcohol.

(See Photo 12)

Step 13

Use a cotton swab and alcohol to clean all contact points on the side of the waste hopper.

Notes:

Photo 14

Step 14

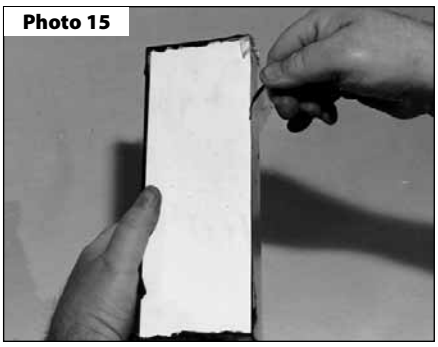
Remove the adhesive backing cover from a new mylar waste hopper strip and install it. Be sure that the strip is straight before pressing it into place.

(See Photo 14)

If the toner hopper tension springs on each side of the waste hopper are stretched or weak replace them with new springs. This will pull the toner hopper tighter to the OPC drum and allow a better transfer of toner from the electrostatic roller to the OPC. Now, set aside the completed waste hopper until you are ready to assemble the cartridge.

Notes:

Photo 15



Step 15

Holding the toner hopper upright, remove the paper cover and tape, and dump out the old toner. Vacuum completely. Then wipe clean with a slightly damp cloth. Be careful not to damage mylar strips inside the toner hopper.

(See Photo 15)

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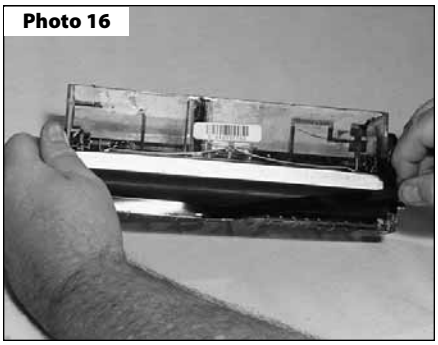
Photo 16



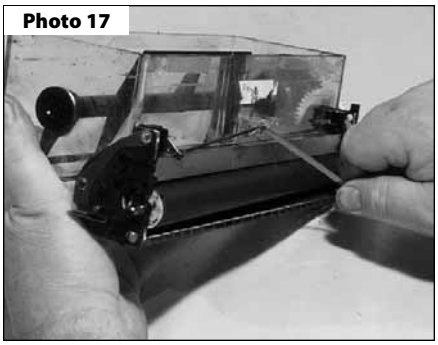
Step 16

Remove the toner hopper mylar retaining blade by peeling it away from the toner hopper.

(See Photo 16)

Notes:

Photo 17



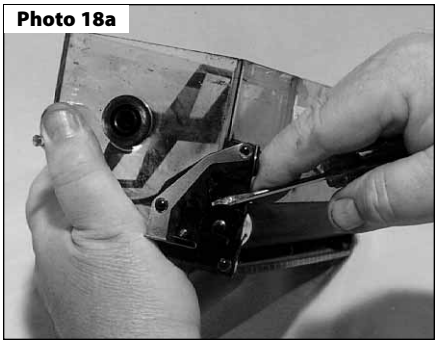
Step 17

Remove the metering blade tension spring.

(See Photo 17)

Notes:

Photo 18a



Step 18

Using a small screwdriver, remove the electrostatic roller retaining piece. Clean it with a cotton swab and alcohol and set aside. Be careful not to lose the little metal contact clip (not shown).

(See Photo18a)

Remove the electrostatic roller by grasping the shaft and pulling it out and to the left.

(See Photo18b)

Notes:

Photo 18b

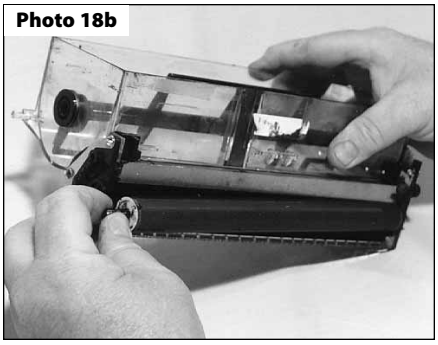
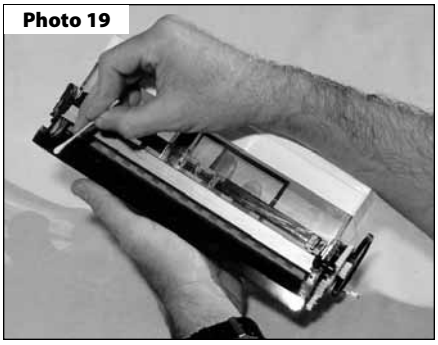


Photo 19



Step 19

Vacuum out any toner from within the electrostatic roller cavity. Remove the black mylar blade from the inside of the electrostatic roller cavity. Once the toner hopper is completely clean, use a swab and isopropyl alcohol and clean the area where the old mylar blades were removed. Install new interior mylar blade "A".

(See Photo19)

NOTE: If not cleaned completely the new blades will not adhere to the toner hopper properly, resulting in a leaky toner hopper.

Notes:

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Step 20

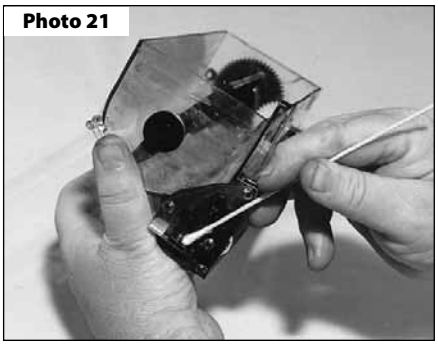
Replace OEM .010" shims with new .020" Teflon shims on the electrostatic roller and re-install the roller into the toner hopper.

NOTE: Two old .010" shims may be used on each end if new .020" shims aren't available.

Re-install the electrostatic roller end piece.

Notes:

Photo 21



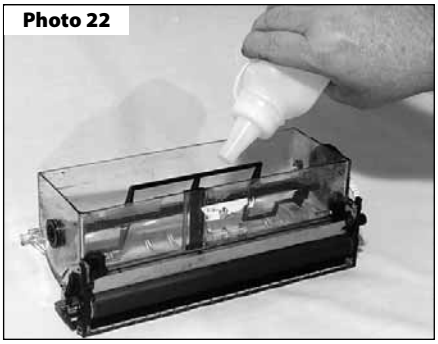
Step 21

Clean the foam roller end shaft and contact strap with a cotton swab and alcohol.

(See Photo 21)

Notes:

Photo 22



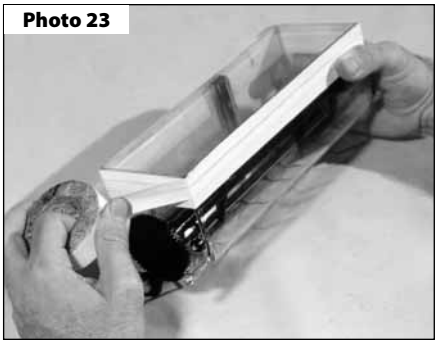
Step 22

Fill the toner hopper with the proper amount of toner.

(See Photo 22)

Notes:

Photo 23

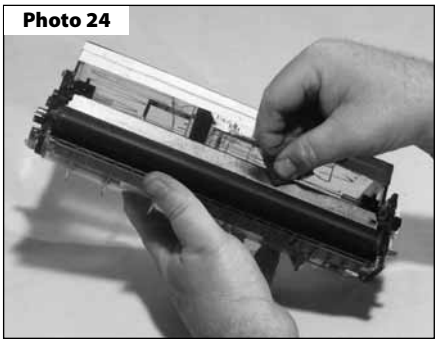


Step 23

Place a new toner hopper cover over the top of the toner hopper. Using tape, seal the toner hopper cover to the toner hopper.

(See Photo 23)

Photo 24



Step 24

Using a "ScotchBrite" pad, clean a 1-inch long area on the front of the metering blade, corresponding to where the grounding contact strap will touch.

(See Photo 24)

This will help avoid the 1/4" gray horizontal line that appears on the "trailing edge" of some prints due to a poor ground contact. Clean the bottom edge of metering blade with a swab and alcohol.

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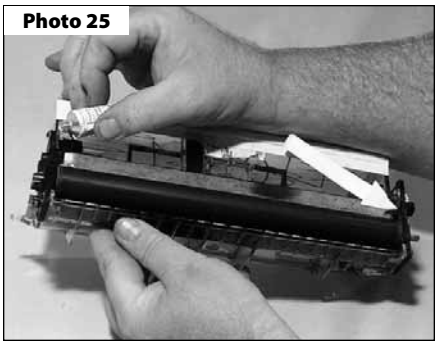
FUTURE GRAPHICS

Photo 25



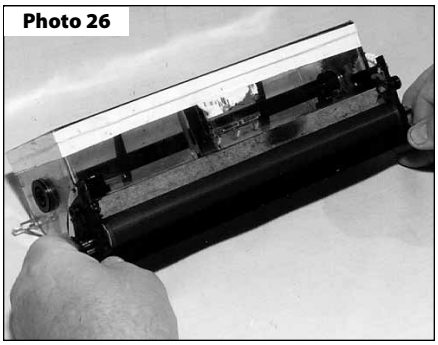
Step 25

Place a thin film of rubber cement, or a similar flexible sealant, at each end of the metal metering blade to keep toner from leaking at these points.

(See Photo 25)

Notes:

Photo 26



Step 26

Install the new mylar blade "B", making sure it is flat and square, with no waves or wrinkles, and that the bottom edge is approximately 1/32" above the bottom edge of the hopper. If it extends too low, it will cause paper jams. Re-install the metering blade tension spring.

(See Photo 26)

Step 27

Dust the wiper/recovery blade area with padding powder.

Step 29

Place a small amount of conductive grease on the waste hopper drum axle.

Notes:

Photo 29

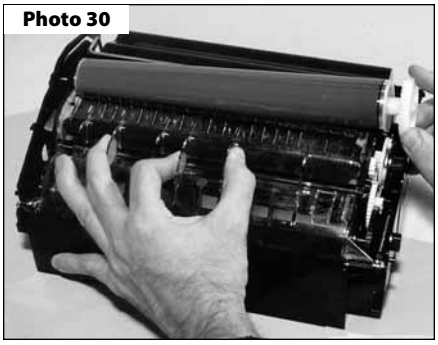
Step 29

Slide the toner hopper, top down and tilted at an angle, into the waste hopper.

(See Photo 29)

NOTE: Use your right index finger to hold back the grounding contact strap.

Photo 30



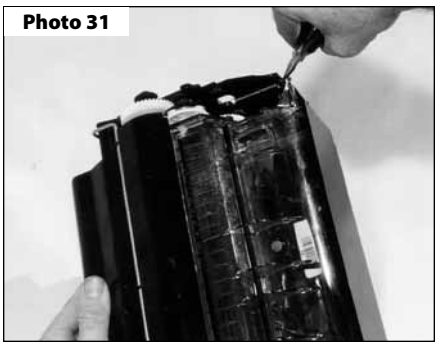
Step 30

Hold the toner hopper back with your left hand while installing the drum with your right.

(See Photo 30)

Notes:

Photo 31



Step 31

Using Needle Nose pliers, reinstall the toner hopper tension springs.

(See Photo 31)

CAUTION: Do not overstretch the springs.

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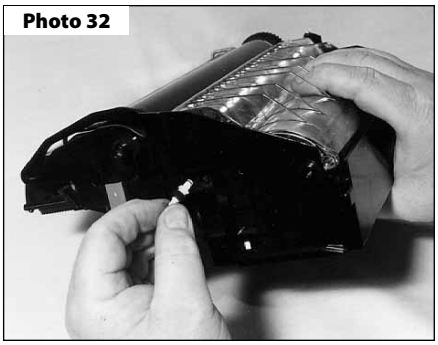
Notes:

Notes:

Notes:

Photo 32



Step 32

Turn the cartridge around and install the toner hopper guide pin. A small amount of rubber cement may be used to keep it in place.

(See Photo 32)

Step 33

Make sure that the toner hopper moves back and forth against the spring tension smoothly. Realign the hopper if necessary, then install the cloth gear assembly.

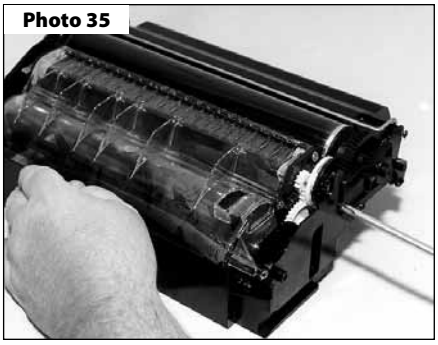
Photo 34

Step 34

Install the drum alignment plate. While holding the drum shutter rod back, position the four holes in the plate onto the four black plastic rivet posts.

(See Photo 34)

Photo 35



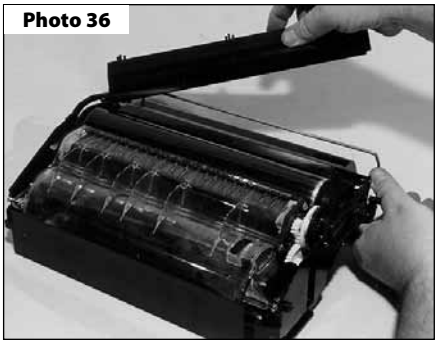
Step 35

Install screws into holes previously drilled in Step 1.

(See Photo 35)

Make sure the plate is correctly aligned and held firmly in place. Turn the drum against the wiper blade while listening for noise and testing for undue torque or stiffness. Proper alignment and free rotation of the drum is essential to good cartridge performance.

Photo 36

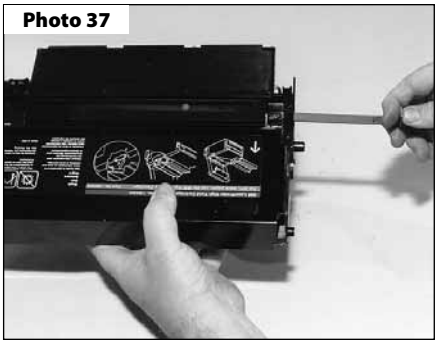


Step 36

Carefully reinstall the OPC shutter.

(See Photo 36)

Photo 37



Step 37

Clean the corona wire with the cartridge corona wire cleaner provided by sliding it in and out several times.

(See Photo 37)

The cartridge is now ready for post testing.

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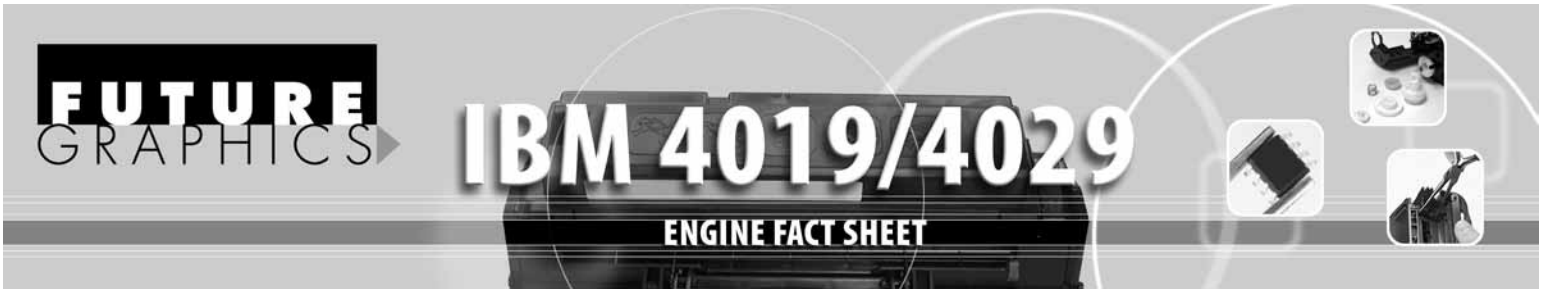

CARTRIDGE MARKET OVERVIEW

OEMCARTRIDGE #	OEM STATED PAGE YIELD	OEM CARTRIDGE LIST PRICE	COMPATIBLE CARTRIDGE RETAIL PRICE
1380200	7,000 Pgs @ 5%		
1380520	9,500 Pgs @ 5%		

TARGET MARKET ENGINE SOLD TO

This engine/printer is sold to

CARTIDGE CROSS COMPATIBILITY

IBM 4019	IBM 4028	IBM 4029
IBM WinWriter 600	Lexmark Laser Printer 5/6/10	BDT Ergoprint510, 61011
Unisys AP 9025, 9210		

FUTURE GRAPHICS PRODUCT LISTING

PRODUCT	DESCRIPTION	ITEM #	PACK QTY.
Cartridge Bag	14x18, 2.5 mil Heat-Sealable Black/Silver Anti-Static Foil	BAG14X18	100
Cartridge Box	14 1/2x6 5/8x11 1/4, Tape-Top White Box/Blue Print	BLUEBAR15X11	25
Cartridge Box Insert	Use Box # BLUEBAR15X11, Die Cut Corrugated	IBMINSERT	50
Cartridge Tech Guide	Remanufacturing Instructions	IBM4019TECH	1
Cartridge Warp	15X26 Gray Open cell Foam, Grabs Toner Leaked in Transit	FOAMWRAP15X26	10
Developer Roller		LMKDVRROL	5
Dev. Roller Washer/Shim	Teflon	HP1200DRBALDEK	10/150
Doctor Bar	Two-Cycle, Double Edge, Flip Over for Second Cycle	LMKDRBAR	10
Doctor Bar Tape	Prevents Dr. Bar Spring From Falling Out While Shipping Like OEM	LMKDRBARTAPE	
Drum	AEG, Green	IBM4019AEG	5/60
Drum Protector Felt	Shutter Felt, Adhesive, 5 Inch	SHUTTERFELT5	100
Drum Shutter Actuator Tab	Triangular Black Plastic	IBM4019TAB	50
Hooper Cover/Seal	Clear Plastic, Flexible Lid, Use Tape to Seal	IBMCOVER	50
Retaining Blade	Toner, Inner/Outer Black Mylar, Set of Two	IBMRBLADE10SET	10
Retaining Blade	Toner, Inner/Wide, Angle cut 9 1/4 x 5/8	IBM4019RBLADEIA	100
Retaining Blade	Toner, Inner/Wide, Black 9 1/4 x 5/8	IBM4019RBLADEI	100
Retaining Blade	Toner, Outer/Long, Black 9 3/4 x 1/2	IBM4019RBLADEO	100
Recover Blade	Waste, Hopper Clear Mylar	IBM4019BLADEW	100
Sealing Tips	Solutions to Leaking Problems Common to IBM Cartridge	IBMSEALTECH	1

Toner	300 gm Bottle Standard Hopper	IBM4039TNR300	10
Toner	480 gm Bottle High Yield Hopper	IBM4039TNR480	10
Toner	With Nomex Felt, Unflocked, Universal IBM 4019-49	IBMWAND	10
Wiper Blade	Kuroki	IBM4019WBLADEK	10/240

TECHNICAL TIP

PROBLEM:

SOLUTION:

PROBLEM:

SOLUTION: